



## Changing landscapes

SUSTAINABLE PRACTICES go hand in hand with good building techniques and an ecological mindset.

What is the measure of sustainable buildings? I believe it is, in part, building structures that outlast the natural resources that produced them. It may also include constructing them so that they have *functional adaptive reuse*. In many cases, the demise of structures seems related to their inability to be modified for a future landscape. Fitting a building style to a particular climate is critical for its staying power as well. Too often, good, well-built buildings fail because of improper foundations and poor roofing materials.

The Selman pavilion, a recent TFG project in Angola, Indiana, has been an attempt to meet these measures (longevity, functional adaptive reuse, climate suitability, good roof, and good foundation). The TFG chose white oak harvested from a managed forest in Illinois. Of the 15 million acres of timber land in Illinois today, not enough of the non-industrial, privately-owned land is sustainably managed. With only 12 district foresters and a government that will not value natural resources, Illinois (and the Midwest in general) is desperately in need of ecological evangelists and building projects to show how value can be enhanced locally. Most of the trees harvested for the Selman pavilion were 90 to 200 years old. We put in place a proper foundation (piers three ft. above grade) and 100-year, recyclable roofing material (steel). The overall design lends itself well to adaptive reuse for generations to come.

Even though the heavy timber building business is a small fraction of the construction industry in the U.S., our impact can be large. (My observations here are limited to the U.S., which, in my opinion, lags significantly behind the rest of the industrial countries in putting ecological practices into place.) If any construction sector is

going to set an example for future generations, it will be ours. This will hold true if we look for an enlightened philosophy of resource use in our clients and if we support our geographic region by working locally and using local materials and labor.

We have such an opportunity (an imperative?) to be more than a cog in the wheel of the construction process by, for example, turning down work when it doesn't meet our own standards. At the very least, we need to work hard to promote positive ecological attitudes.

If we can't build buildings that outlast the resources used for them, then why build them? Building structures with poorly-thought-out foundations or roof materials (like asphalt shingles) that will last only one-tenth of the life of the structure is a waste of everyone's time and energy.

In a recent trip to Switzerland, we had the pleasure of visiting a building museum in Ballenburg. Wood structures there date from the 1300s. We would always hope, as carpenters, to aspire to such longevity in the buildings we create. Certainly, building design for our climate is different from Switzerland's; we can't just cut and paste that building. In our Midwest climate, the humidity ranges from 12 to 100 percent, temperatures range from -30 to 115°F, the growing season is about four months, and weather includes 45 in. of annual rainfall as well as tornadoes, earthquakes, lightning storms, driving rain, and sunshine. Our buildings must withstand all this.

Eliminating shipping long distances when possible, whether from forest to mill, mill to workshop, or workshop to site, is a goal we should have. We can strive to ship appropriate products to appropriate destinations and not turn a blind eye for the sake of the sale. Further, it is our responsibility to ask the tough questions of our clients, such as: if I build this for you, how do you plan

on maintaining it? We need to consider longevity in the projects we take on; we shouldn't take work on just because we think it's cool.

The construction process itself also needs careful thought. Construction waste contributes hugely to landfills in the U.S. Much of the residential construction in the U.S. is geared toward no-maintenance and low-maintenance structures. To change the building industry, we must defeat this logic. Having restored hundreds of structures, we see clearly that buildings that last the longest took more labor to produce and enjoyed sensible, regular maintenance.

No matter the scale of your operation, you can accept the responsibility to build sustainably. Part of this certainly should be building workshops and manufacturing facilities that model the resource view you are selling. Living in a time and place that has seen more than its share of economic transformation and the resulting turbulence, from an increase in industrial agriculture to the decline of big manufacturing, we have had a close-up view of the throes that businesses endure and their impact on the local environment.

Wal-Mart is a regrettable case in point. Out here in the Midwest, a common Wal-Mart practice is to place a "small" (still gargantuan at about 43,000 sq. ft.) test store in a location. If, as they hope, competitors die off and the store prospers, they abandon that building and build a megastore easily twice that size right in front of it. If that store doesn't fly, they simply abandon it. Whichever strategy they choose, the community is saddled with a giant building that is not technically a brownfield (contaminated, polluting, or toxic), but

might as well be when considering its lack of ability to use it again. The abandoned stores are highly impractical to convert, rent, heat, or cool. These structures get an F on the adaptive reuse report card.

We know that carrying sustainable building into the current mainstream cultural and economic environment of the U.S. is difficult. The need for work can also cause us to take jobs with less-than-optimal ecological considerations. Inroads are more easily (and maybe more appropriately) made in our own life choices. For us it starts with sheep as lawn mowers.

So what about sheep? That's our latest experiment: an effort to cut down on lawn mower pollution. Right now we have three Suffolk ewes and one Dorset ewe. This is new for us, so we're still learning. The more we handle them, the easier it is. While they mostly enjoy grazing alfalfa and grass, we do supplement their feed with all-stock pellets and alfalfa and grass flakes. Three of the sheep are fenced in, because we want them to "mow" around the timbers in a certain area. We had no zoning issues; the area is already zoned for agriculture. As time goes on, we'll no doubt learn more about using sheep as lawn mowers.

Sustainability is not just about organic food, salvaged timber, alternative energy, or insulation value. It is about our attitude toward life, our impact on the world, and, most important, how we preserve the earth for the next millennium. It's never too late to rethink our lifestyle decisions.

—Rick and Laura Collins



photo Harmony Huntington